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80:80 Office Furniture System designed by John Walsh for Tangent Furniture, 2002

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80:80

the free address
bench system
by **tangent**

80:80

80:80 is an office furniture system designed by John Walsh for Tangent Furniture, UK, (www.tangentfurniture.co.uk) in 2001/2002. The product was launched in September 2002 and is still manufactured and sold.

About 30,000 80:80 workstations have been installed to date on many high profile projects for clients including the BBC, Bank of China, Bank of England, British Gas, British Telecom, Fujitsu-Siemens, GlaxoSmithKline, Lastminute.com, Marks Barfield Architects, M&C Saatchi, Microsoft, New London Stock Exchange, O2, Scottish Water, Tommy Hilfiger, Virgin Media, and Wallpaper Magazine. 80:80 was a Finalist in the 2003 FX International Design Awards in the category of Best Systems Furniture Product.



Fig.1

Overview:

80:80 was developed against the background of a changing work environment. Advances in technology meant that work became mobile, the breaking down of walls and cubicles created large open spaces allowing for a movement towards collaborative work and "New Ways of Working".

80:80 was designed in this context to provide a foundation for flexible working. Delineators that define territory, such as legs, vertical supports, fixed side screens, were removed or minimised to create an uninterrupted worksurface span, allowing for a flexible space where users can annex as much space as the task in hand requires. The intention was to create a simple, flexible platform for modern work in its many forms and to reduce the desk back to its most simple and useful form- the table. 80:80 does not tell you where to sit, that does not impose upon you how to work but is a blank canvas that facilitates flexible working, aids communication, encourages team work and acknowledges fluctuations in the numbers of people who use a workspace on a day to day basis.

80:80 "Free Address" concept

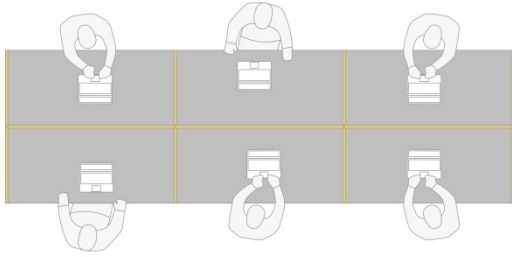


Fig.2 Traditional fixed desks

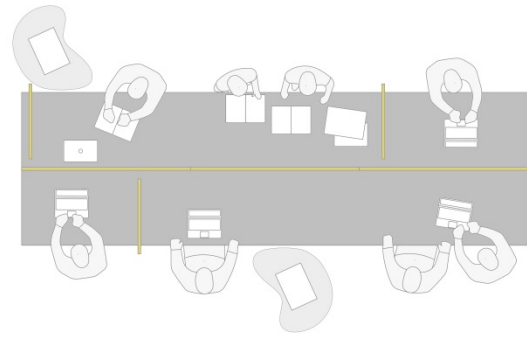


Fig.3 80:80 "Free Address" concept

Traditional individual desk layout with rigid seating positions and screens, hamper the ability to collaborate and prevent the space from adapting to different work functions or other conditions (fig.2).

80:80 "Free Address" concept: while the bench can be used in the traditional format, the flexible nature of the system allows for different work functions; moveable screens can create zones for privacy, but can be moved to provide a larger space for laying out work for example, the lack of intermediate legs means that team members can collaborate more easily while mobile tables provide additional space where necessary (fig.3).



Fig.4

Bench

Probably the most important feature of 80:80 was the removal of intermediate vertical supports or legs between side by side “desks”. A typical office furniture system shares components to reduce cost and physical and visual clutter; instead of having 6 individual desks together and 24 legs for example (fig.5), a system “shares” legs and other components so 6 desks might have effectively 8 legs (fig.6). 80:80 goes one step further- outer legs are pushed back to the centre of the structure so that a 6 person configuration has only 6 legs (fig.7). This creates an uninterrupted span of almost any length to make a flexible “bench”. On a 6 meter span of table, all vertical supports (aside from those at the 4 corners) were moved to at least 600mm back from the front edge of the desk to meet the ergonomic standards of a traditional desk, in any position along the 80:80 span.

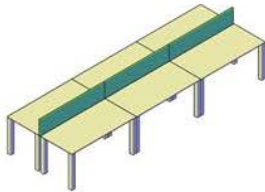


Fig.5

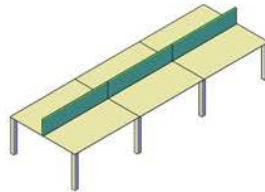


Fig.6

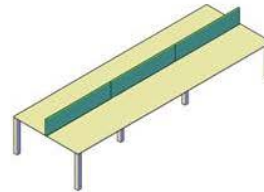


Fig.7

Structure Design

Technically of course, the removal of so much structure created several design challenges. An extremely strong steel component based structure went through multiple iterations and prototypes before a final solution was found.



Safety, strength, stability and durability are all important factors in any office environment, particularly when it comes to creating a system that has a minimal and unobtrusive under-structure. We found that because of the minimal structure, potential clients perceived the product as lacking strength to be able to withstand the rigours of a modern office environment. Because of this 80:80 was subjected to British Standard testing for Structural Safety (BS EN 527-2:2002) and Strength and Stability (BS 4875:2001) at FIRA (Furniture Industry Research Association).

As part of this testing, a 125kg weight was placed on the weakest point of a 6m bench 10 times for 10 seconds to measure deflection, a 40kg weight was placed on the weakest point of the bench 10,000 times to measure vertical fatigue, and a 25kg weight was dropped from a height of 240mm 10 times to measure impact strength. After some further development following an initial testing 80:80 passed these standards easily.

Catering for Technology

Equally important to 80:80's conception was the reality of the technological world in which we live. We felt that too many furniture systems ignore and avoid cabling and technology in order to achieve a minimal look that may look great in photography or a showroom but often didn't work well in a working office environment. The intention with 80:80 was to embrace technology whilst maintaining a visually pure, clean and minimal aesthetic that can be applied not only to the showroom and brochure but to a fully working office.

80:80's central support legs carry cables vertically from the floor, and have been designed to incorporate the option of a specially designed above floor Power Distribution Unit (PDU) (fig.9). The 80:80 PDU takes a 32 amp power supply through a simple hole or "grommet" in a raised access floor via 1 single cable to a fused panel with 4x 13 amp plug-ins. This means that a single power cable can typically provide power for up to 6 users or 24 sockets. This reduces lengthy trailing cables and trip hazards and substantially reduces cost by negating the need for "floor boxes" (fig.8). Downstream reconfiguration of the office space is also cheaper as the PDU is much easier to move than a floor box.

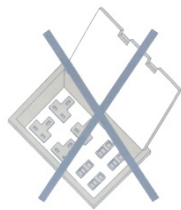


Fig.8



Fig.9

Designed for the user

Another key element of 80:80's design was to provide users with easy access to Power and Data. As part of a flexible product story, we felt that users who need to plug in a laptop or mobile phone should be able to do so easily, without bending down or straining themselves in any way. Below the desk, less frequently accessed sockets are mounted within a cable channel facing the user for ease of access (fig.10), while moveable Above Desk Power/ Data Units (fig.11) are provided above the desk and can simply be hooked into the screen and positioned / moved left or right anywhere along the length of the desk providing quick and easy connectivity in a position to suit how the individual user works. Furthermore, unlike worksurface mounted modules, these units do not take up any desk space and can easily be moved or retrofitted if required.



Fig.10



Fig.11

Modularity, ease manufacture, assembly and re-configuration

People, spaces, tasks and computers all come in different shapes and sizes. Part of the challenge in designing a furniture system for volume manufacture is to create a product that can be adapted to as many workplace requirements and spatial layouts as possible whilst maintaining the minimum number of component parts to make the product cost effective and easy to produce. One of the biggest challenges in designing 80:80 was to achieve as much functionality as possible from every individual component and to reduce the overall component count in order to optimise production and reduce stock holding. This was done through a process of continuously re-design and iteration and value-engineering.

From a kit of only 13 main component parts (fig.12) it is possible to construct not just a bench of any required size within 100mm increments, but a complete range of diverse workspace configurations from wave desks to 120 degree clusters).

This economic vocabulary of non-handed and interchangeable components makes it possible to reconfigure, add to or subtract from many modules without replacing any parts. This means that as organisations need to expand, contract, change or move at short notice, downstream maintenance and reconfiguration become simple and inexpensive.

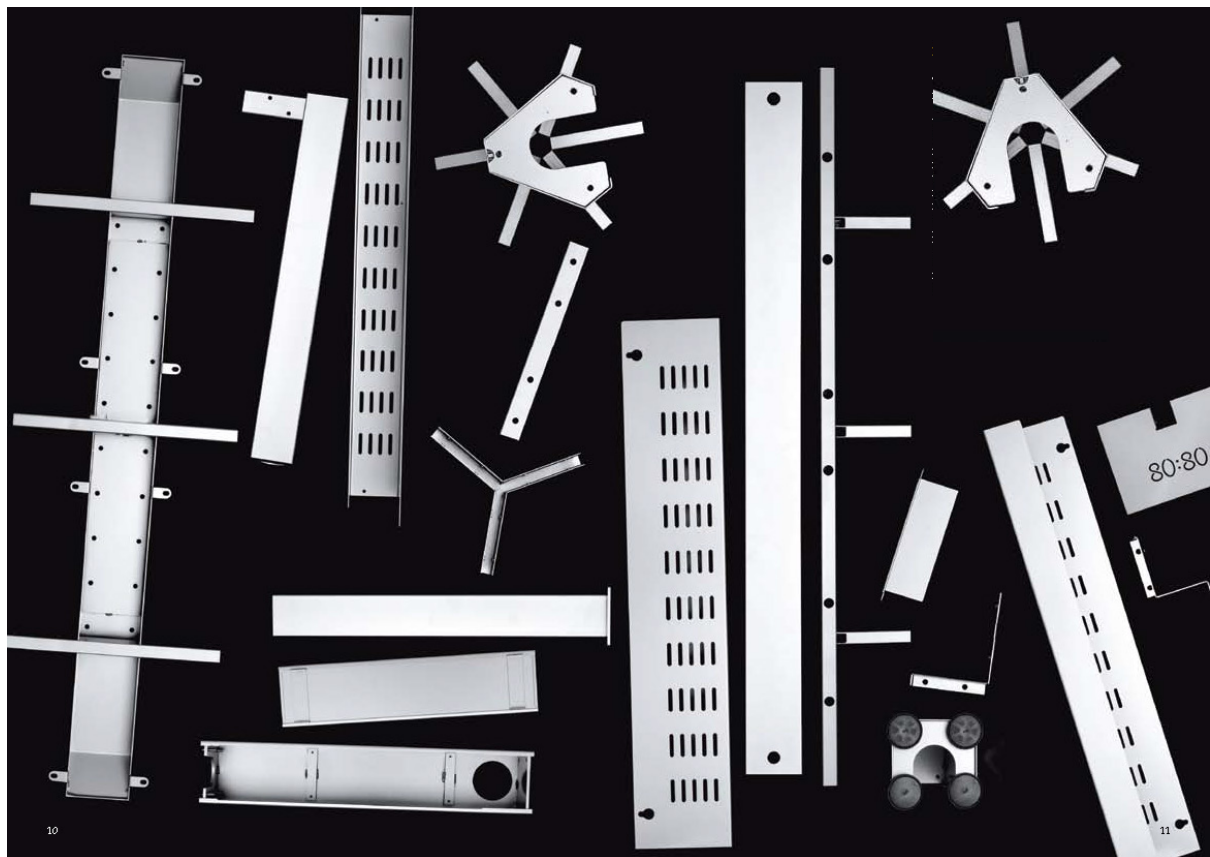


Fig.12

8080 system Assembly and components

